We Claim:

1. A DNA construct comprising a seed-specific promoter operatively linked to a nucleotide sequence encoding an amylopullulanase or a fragment thereof having pullulanase and α-amylase activities.

2. The construct of claim 1, wherein the amylopullulanase is a microbial amylopullulanase.

3. The construct of claim 2, wherein the microbial amylopullulanase is *T. ethanolicus* amylopullulanase.

4. The construct of claim 3, wherein the *T. ethanolicus* amylopullulanase is free of amino acids 1-105 and 1061-1481 of SEQ ID NO:1.

5. The construct of claim 1, wherein the nucleotide sequence encodes an amylopullulanase linked to a signal peptide.

6. The construct of claim 5, wherein the signal peptide is a glutelin signal peptide.

7. The construct of claim 1, wherein the nucleic acid further includes a 3' gene terminator sequence.

8. The construct of claim 7, wherein the 3' gene terminator sequence is a nopaline synthase gene terminator sequence.

9. The construct of claim 1, wherein the seed specific promoter is a glutelin promoter or an α-Amy promoter.

10. The construct of claim 9, wherein the α-Amy promoter is the α-Amy3 or the α-Amy8 promoter.

11. The construct of claim 9, wherein the glutelin promoter is the *GluB* promoter.

12. A genetically engineered seed, comprising a seed-specific promoter operably linked to a nucleotide sequence encoding amylopullulanase or a fragment thereof having pullulanase and α-amylase activities.

13. The seed of claim 12, wherein the amylopullulanase is a microbial amylopullulanase.

14. The seed of claim 13, wherein the microbial amylopullulanase is *T. ethanolicus* amylopullulanase.

15. The seed of claim 14, wherein the amylopullulanase is free of amino acids 1-105 and 1061-1481 of SEQ ID NO:1.

16. The seed of claim 12, wherein the genetically engineered seed is a rice, corn, wheat, or barley seed.

17. The seed of claim 12, wherein the genetically engineered seed is a rice seed.

18. The seed of claim 13, wherein the genetically engineered seed is a rice seed.

19. The seed of claim 14, wherein the genetically engineered seed is a rice seed.

20. The seed of claim 12, wherein the nucleotide sequence encodes an amylopullulanase linked to a signal peptide.

21. The seed of claim 20, wherein the signal peptide is a glutelin signal peptide.

22. The seed of claim 12, wherein the nucleotide sequence further includes a 3' gene terminator sequence.

23. The seed of claim 22, wherein the 3' gene terminator sequence is a nopaline synthase gene terminator sequence.

24. The seed of claim 12, wherein the seed specific promoter is a glutelin promoter or an *α-Amy* promoter.

25. The seed of claim 24, wherein the glutelin promoter is a *GluB* promoter.

26. The seed of claim 24, wherein the α-Amy promoter is the *α-Amy3* or the *αAmy8* promoter.

27. A method of producing seeds having a modified starch structure or content, comprising:

transforming a plant cell with a DNA construct comprising a seed specific promoter operatively linked to a nucleotide sequence encoding an amylopullulanase or a fragment thereof having pullulanase and α-amylase activities;

generating a whole plant from the transformed plant cell;

optionally multiplying the whole plant; and

harvesting seeds from the whole plant or multiplied whole plants.

28. The method of claim 27, wherein the plant cell is a rice cell.

29. The method of claim 27, wherein the amylopullulanase is a microbial amylopullulanase.

30. The method of claim 29, wherein the microbial amylopullulanase is *T. ethanolicus* amylopullulanase.

31. The method of claim 30, wherein the amylopullulanase fragment is free of amino acids 1-105 and 1061-1481 of SEQ ID NO:1.

32. A method of producing a starch having a modified structure, comprising:

transforming a plant cell with a DNA construct comprising a seed specific promoter operatively linked to a nucleotide sequence encoding an amylopullulanase or a fragment thereof having pullulanase and α-amylase activities;

generating a whole plant from the transformed plant cell;

optionally multiplying the whole plant;

harvesting seeds from the whole plant or multiplied whole plants; and

extracting the starch from the seeds.

33. The method of claim 32, wherein the plant cell is a rice cell.

34. The method of claim 32, wherein the amylopullulanase is a microbial amylopullulanase.

35. The method of claim 34, wherein the microbial amylopullulanase is *T. ethanolicus* amylopullulanase.

36. The method of claim 35, wherein the *T. ethanolicus* amylopullulanase fragment is free of amino acids 1-105 and 1061-1481 of SEQ ID NO:1.

37. A method of producing a sugar, comprising:

transforming a plant cell with a DNA construct comprising a seed specific promoter operatively linked to a nucleotide sequence encoding an amylopullulanase or a fragment thereof having pullulanase and a-amylase activities;

generating a whole plant from the transformed plant cell;

optionally multiplying the whole plant;

harvesting seeds from the whole plant or multiplied whole plants; and

treating the seeds, or starch extracted from the seeds, under conditions sufficient to convert the starch in the seeds or the starch extracted from the seeds, to sugar.

38. The method of claim 37, wherein treating the seeds, or starch extracted from the seeds, comprises heating the seeds, or starch extracted from the seeds.

39. The method of claim 37, wherein the amylopullulanase is a microbial amylopullulanase.

40. The method of claim 39, wherein the microbial amylopullulanase is *T. ethanolicus* amylopullulanase.

41. The method of claim 40, wherein the *T. ethanolicus* amylopullulanase fragment is free of amino acids 1-105 and 1061-1481 of SEQ ID NO:1.

42. The method of claim 39, wherein the plant cell is a rice cell.

43. The method of claim 40, wherein the plant cell is a rice cell.

44. A method of producing a polypeptide, comprising:

providing a nucleic acid construct that includes a glutelin promoter, and optionally includes a nucleotide sequence encoding a glutelin signal sequence, operatively linked to a heterologous nucleotide sequence encoding a polypeptide;

introducing the nucleic acid construct into a plant cell; and

allowing the plant cell to express the polypeptide encoded by the coding sequence.

45. The method of claim 44, wherein the glutelin promoter is the *GluB* promoter.

46. The method of claim 44, wherein the polypeptide is a bacterial polypeptide.

47. The method of claim 44, wherein the plant cell is a rice cell.